

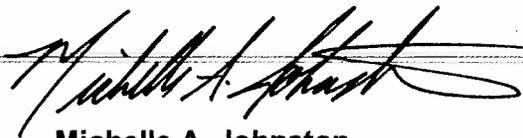
ANALYTICAL REPORT

Perfluorocarbon (PFC) Analysis

Lot #: D9H150176

Dena Haverland

**Dalton Utilities
1200 V.D. Parrot Jr. Parkway
Dalton, GA 30721**



**Michelle A. Johnston
Project Manager**

August 31, 2009

Case Narrative

D9H150176

TestAmerica Denver utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameters listed on the methods summary page in accordance with the methods indicated. Dilution factors and footnotes are provided on each datasheet to assist in the interpretation of the results.

The results relate only to the samples in this report and meet all requirements of NELAC. All data have been reviewed for compliance with the laboratory QA/QC plan and have found to be compliant with laboratory protocols with any exceptions noted below.

Please note that Non-Detect (ND) results have been evaluated down to the Method Detection Limit (MDL) and should be considered ND at the MDL. Unless otherwise noted, results for solids have been dry weight corrected.

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Sample Arrival and Receipt

The following report contains the analytical results for twelve samples received at TestAmerica Denver on August 15, 2009, according to documented sample acceptance procedures. The samples were received in good condition at a temperature of 2.4°C.

Relinquished By information is not present on the chains-of-custody. The client was notified on August 18, 2009.

No other anomalies were encountered during sample receipt.

Standards

Analytical standards were prepared using commercially available certified solutions containing all compounds of interest.

The mass labeled compounds 13C4 PFBA, 13C2 PFHxA, 18O2 PFHxS, 13C4 PFOA, 13C4 PFOS, 13C5 PFNA, 13C2 PFDA, 13C2 PFUnA, 13C2 PFDoA, and D3 MeFOSA were introduced at the extraction step and were used for internal standards for the quantitation of the target compounds.

Sample Extraction and Analysis

The samples presented in this report were extracted for the target analytes by TestAmerica Denver's Standard Operating Procedure (SOP) DV-OP-0019 and analyzed for the target analytes by TestAmerica Denver's SOP DV-LC-0012.

Method QC Samples

The Method Blank is processed reagent water spiked with surrogate and prepared with each batch of 20 samples of the same matrix. The method blanks were non-detect at the reporting limits for the target analytes.

Each batch is prepared with low and mid level Laboratory Control Samples (LCS). The LCS recoveries for both levels were within established control limits, with the exception of the items noted in section Analytical Comments.

Analytical Comments

Please note during the FOSA extraction process samples #15 719 BRACKETT RIDGE RD, #18 721 BRACKETT RIDGE RD, #19 722 BRACKETT RIDGE RD, #25 8907 HWY 225, and #26 9279 HWY 225 clogged the cartridge; therefore, the organic preparation chemist had to use two cartridges for each of these samples.

Due to low internal standard recoveries in the samples and in the method blank associated with QC batch 9231231, samples #17 231 BRACKETT LOOP, #19 722 BRACKETT RIDGE RD, and #20 600 TARVIN RD were re-extracted out of the laboratory prescribed hold time and reanalyzed in QC batch 9238300. Both batches are included in this report. Please note the sample results should be considered estimated.

The internal standard recoveries for Me FOSA were recovered below 50% in samples #16 24 BRIGHT RD, #22 8165 HWY 225, and #25 8907 HWY 225. This is an indicator the FOSA data may be biased high. Upon re-extraction past hold time and reanalysis in QC batch 9231216, surrogate recovery outliers were still present in samples #22 8165 HWY 225 and #25 8907 HWY 225, demonstrating this anomaly is most likely due to matrix interference. The original analysis data have been provided. Please note insufficient volume remained for sample #16 24 BRIGHT RD to be re-extracted; therefore, the original data have been provided.

The internal standard recoveries for 13C2 PFDA, 13C2 PFUnA, and 13C2 PFDa were recovered below 50% in sample #17 231 BRACKETT LOOP associated with QC batch 9231231. The internal standard recoveries for 13C2 PFDa were recovered below 50% in samples #19 722 BRACKETT RIDGE RD and #22 8165 HWY 225 associated with QC batch 9231231. The internal standard recoveries for 13C2 PFUnA and 13C2 PFDa were recovered below 50% in sample #20 600 TARVIN RD associated with QC batch 9231231. This is an indicator that data may be biased high. Upon re-extraction past hold time and reanalysis in QC batch 9238300, surrogate recovery outliers were still present in samples #17 231 BRACKETT LOOP, #19 722 BRACKETT RIDGE RD, and #20 600 TARVIN RD, demonstrating this anomaly is most likely due to matrix interference. Both the original and reanalysis data have been provided for samples #17 231 BRACKETT LOOP, #19 722 BRACKETT RIDGE RD, and #20 600 TARVIN RD, as re-extraction was unavoidably performed outside the laboratory recommended sample holding time. Please note insufficient volume remained for sample #22 8165 HWY 225 to be re-extracted; therefore, the original data have been provided.

The internal standard recovery for 13C2 PFDa was recovered below 50% in the method blank associated with QC batch 9231231. This is an indicator that data may be biased high. As the samples do not contain any detectable concentrations for constituents associated with this internal standard, corrective action is deemed unnecessary.

The low-level LCS associated with QC batch 9231231 exhibited a percent recovery above the QC limits for Perfluorodecanoic acid (PFDa). ~~This is an indicator that data may be biased high.~~ As no detectable concentrations are present in the associated samples, corrective action is deemed unnecessary. Usability of the sample data is not compromised.

The method required MS/MSD analyses could not be performed for QC batch 9231231, due to insufficient sample volume. Method precision and accuracy have been verified by the acceptable low-level LCS and mid-level LCS/LCSD analyses data.

No other anomalies were observed.

EXECUTIVE SUMMARY - Detection Highlights

D9H150176

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
#16 24 BRIGHT RD 08/13/09 14:56 002				
Perfluorooctane sulfonamide (F	0.0096 J	0.050	ug/L	DEN -LC-0012
#22 8165 HWY 225 08/14/09 13:15 008				
Perfluorooctanoic Acid	0.29	0.020	ug/L	DEN -LC-0012
Perfluorooctanesulfonate	0.24	0.020	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.071	0.020	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	0.12	0.030	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.14	0.020	ug/L	DEN -LC-0012
Perfluoroheptanoic acid (PFHpA)	0.092	0.020	ug/L	DEN -LC-0012
Perfluorononanoic acid (PFNA)	0.049	0.020	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB	0.38	0.020	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH	0.072	0.030	ug/L	DEN -LC-0012

METHODS SUMMARY

D9H150176

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
LC/MS/MS PFCs	DEN -LC-0012	SW846 FOSA spec

References:

DEN Severn Trent Laboratores, Denver, Facility Standard
Operating Procedure.

METHOD / ANALYST SUMMARY

D9H150176

<u>ANALYTICAL METHOD</u>	<u>ANALYST</u>	<u>ANALYST ID</u>
DEN -LC-0012	Jacqueline Bonnett	003601

References:

DEN Severn Trent Laboratores, Denver, Facility Standard
 Operating Procedure.

SAMPLE SUMMARY

D9H150176

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
LH8RF	001	#15 719 BRACKETT RIDGE RD	08/13/09	13:50
LH8RQ	002	#16 24 BRIGHT RD	08/13/09	14:56
LH8RR	003	#17 231 BRACKETT LOOP	08/13/09	16:14
LH8RT	004	#18 721 BRACKETT RIDGE RD	08/13/09	16:40
LH8RV	005	#19 722 BRACKETT RIDGE RD	08/13/09	16:54
LH8RW	006	#20 600 TARVIN RD	08/13/09	17:17
LH8R0	007	#21 6898 HWY 225	08/14/09	12:42
LH8R1	008	#22 8165 HWY 225	08/14/09	13:15
LH8R2	009	#23 8745 HWY 225	08/14/09	13:25
LH8R3	010	#24 8609 HWY 225	08/14/09	13:37
LH8R4	011	#25 8907 HWY 225	08/14/09	13:59
LH8R5	012	#26 9279 HWY 225	08/14/09	14:17

NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Dalton Utilities

Client Sample ID: #15 719 BRACKETT RIDGE RD

HPLC

Lot-Sample #...: D9H150176-001 Work Order #...: LH8RF1AA Matrix.....: WATER
Date Sampled...: 08/13/09 13:50 Date Received...: 08/15/09
Prep Date.....: 08/17/09 Analysis Date...: 08/18/09
Prep Batch #...: 9229100 Analysis Time...: 12:29
Dilution Factor: 1

Method.....: DEN -LC-0012

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
MeFOSA	59	(50 - 200)

Dalton Utilities

Client Sample ID: #15 719 BRACKETT RIDGE RD

HPLC

Lot-Sample #....: D9H150176-001 Work Order #....: LH8RF1AD Matrix.....: WATER
 Date Sampled....: 08/13/09 13:50 Date Received...: 08/15/09
 Prep Date.....: 08/19/09 Analysis Date...: 08/21/09
 Prep Batch #....: 9231231 Analysis Time...: 16:39
 Dilution Factor: 1
 Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0055
Perfluorooctanesulfonate	ND	0.020	ug/L	0.0068
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0062
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.0082
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0030
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.0054
)				
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.0065
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0026
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0025
A)				
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.0040
A)				
Perfluorotridecanoic acid (PFTriA)	ND	0.020	ug/L	0.0072
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.0087
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0045
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0084

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
13C4 PFOA	102	(50 - 200)
13C4 PFOS	68	(50 - 200)
13C4 PFBA	70	(50 - 200)
13C2 PFHxA	71	(50 - 200)
18O2 PFHxS	83	(50 - 200)
13C5 PFNA	68	(50 - 200)
13C2 PFDA	64	(50 - 200)
13C2 PFUnA	60	(50 - 200)
13C2 PFDoA	51	(50 - 200)

Dalton Utilities

Client Sample ID: #16 24 BRIGHT RD

HPLC

Lot-Sample #....: D9H150176-002 Work Order #....: LH8RQ1AA Matrix.....: WATER
Date Sampled....: 08/13/09 14:56 Date Received...: 08/15/09
Prep Date.....: 08/17/09 Analysis Date...: 08/18/09
Prep Batch #....: 9229100 Analysis Time...: 12:37
Dilution Factor: 1
Method.....: DEN -LC-0012

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perfluorooctane sulfonamide (F OSA)	0.0096 J	0.050	ug/L	0.0057

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
MeFOSA	17 *	(50 - 200)

NOTE(S) :

- * Surrogate recovery is outside stated control limits.
- J Estimated result. Result is less than RL.

Dalton Utilities

Client Sample ID: #16 24 BRIGHT RD

HPLC

Lot-Sample #....: D9H150176-002 Work Order #....: LH8RQ1AC Matrix.....: WATER
 Date Sampled....: 08/13/09 14:56 Date Received...: 08/15/09
 Prep Date.....: 08/19/09 Analysis Date...: 08/21/09
 Prep Batch #....: 9231231 Analysis Time...: 16:56
 Dilution Factor: 1
 Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0055
Perfluorooctanesulfonate	ND	0.020	ug/L	0.0068
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0062
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.0082
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0030
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.0054
)				
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.0065
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0026
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0025
A)				
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.0040
A)				
Perfluorotridecanoic acid (PFTriA)	ND	0.020	ug/L	0.0072
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.0087
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0045
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0084

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
13C4 PFOA	111	(50 - 200)
13C4 PFOS	74	(50 - 200)
13C4 PFBA	73	(50 - 200)
13C2 PFHxA	76	(50 - 200)
18O2 PFHxS	87	(50 - 200)
13C5 PFNA	68	(50 - 200)
13C2 PFDA	66	(50 - 200)
13C2 PFUnA	65	(50 - 200)
13C2 PFDoA	54	(50 - 200)

Dalton Utilities

Client Sample ID: #17 231 BRACKETT LOOP

HPLC

Lot-Sample #....: D9H150176-003 Work Order #....: LH8RR1AA Matrix.....: WATER
Date Sampled...: 08/13/09 16:14 Date Received...: 08/15/09
Prep Date.....: 08/17/09 Analysis Date...: 08/18/09
Prep Batch #....: 9229100 Analysis Time...: 12:44
Dilution Factor: 1
Method.....: DEN -LC-0012

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
MeFOSA	51	(50 - 200)

Dalton Utilities

Client Sample ID: #17 231 BRACKETT LOOP

HPLC

Lot-Sample #....: D9H150176-003 Work Order #....: LH8RR1AC Matrix.....: WATER
 Date Sampled....: 08/13/09 16:14 Date Received...: 08/15/09
 Prep Date.....: 08/19/09 Analysis Date...: 08/21/09
 Prep Batch #....: 9231231 Analysis Time...: 17:28
 Dilution Factor: 1
 Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0055
Perfluorooctanesulfonate	ND	0.020	ug/L	0.0068
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0062
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.0082
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0030
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.0054
)				
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.0065
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0026
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0025
A)				
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.0040
A)				
Perfluorotridecanoic acid (PFTrIA)	ND	0.020	ug/L	0.0072
riA)				
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.0087
FTeA)				
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0045
S)				
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0084
xS)				

SURROGATE	PERCENT RECOVERY	
	PERCENT RECOVERY	RECOVERY LIMITS
13C4 PFOA	98	(50 - 200)
13C4 PFOS	54	(50 - 200)
13C4 PFBA	74	(50 - 200)
13C2 PFHxA	73	(50 - 200)
1802 PFHxS	82	(50 - 200)
13C5 PFNA	58	(50 - 200)
13C2 PFDA	48 *	(50 - 200)
13C2 PFUnA	39 *	(50 - 200)
13C2 PFDoA	31 *	(50 - 200)

NOTE (S) :

* Surrogate recovery is outside stated control limits.

Dalton Utilities

Client Sample ID: #17 231 BRACKETT LOOP

HPLC

Lot-Sample #....: D9H150176-003 Work Order #....: LH8RR2AC Matrix.....: WATER
 Date Sampled....: 08/13/09 16:14 Date Received...: 08/15/09
 Prep Date.....: 08/26/09 Analysis Date...: 08/27/09
 Prep Batch #....: 9238300 Analysis Time...: 09:38
 Dilution Factor: 1
 Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0055
Perfluorooctanesulfonate	ND	0.020	ug/L	0.0068
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0062
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.0082
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0030
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.0054
)				
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.0065
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0026
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0025
A)				
Perfluorododecanoic acid (PFDDA)	ND	0.020	ug/L	0.0040
A)				
Perfluorotridecanoic acid (PFTrDA)	ND	0.020	ug/L	0.0072
riA)				
Perfluorotetradecanoic acid (PFTrDA)	ND	0.020	ug/L	0.0087
FTeA)				
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0045
S)				
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0084
xS)				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C4 PFOA	96	(50 - 200)
13C4 PFOS	76	(50 - 200)
13C4 PFBA	84	(50 - 200)
13C2 PFHxA	87	(50 - 200)
18O2 PFHxS	85	(50 - 200)
13C5 PFNA	75	(50 - 200)
13C2 PFDA	75	(50 - 200)
13C2 PFUnA	72	(50 - 200)
13C2 PFDoA	67	(50 - 200)

Dalton Utilities

Client Sample ID: #18 721 BRACKETT RIDGE RD

HPLC

Lot-Sample #....: D9H150176-004 Work Order #....: LH8RT1AA Matrix.....: WATER
Date Sampled....: 08/13/09 16:40 Date Received...: 08/15/09
Prep Date.....: 08/17/09 Analysis Date...: 08/18/09
Prep Batch #....: 9229100 Analysis Time...: 12:51
Dilution Factor: 1
Method.....: DEN -LC-0012

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
MeFOSA	50	(50 - 200)

Dalton Utilities

Client Sample ID: #18 721 BRACKETT RIDGE RD

HPLC

Lot-Sample #....: D9H150176-004 Work Order #....: LH8RT1AE Matrix.....: WATER
 Date Sampled....: 08/13/09 16:40 Date Received...: 08/15/09
 Prep Date.....: 08/19/09 Analysis Date...: 08/21/09
 Prep Batch #....: 9231231 Analysis Time...: 17:44
 Dilution Factor: 1
 Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0055
Perfluorooctanesulfonate	ND	0.020	ug/L	0.0068
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0062
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.0082
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0030
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.0054
)				
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.0065
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0026
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0025
A)				
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.0040
A)				
Perfluorotridecanoic acid (PFTriA)	ND	0.020	ug/L	0.0072
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.0087
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0045
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0084

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
13C4 PFOA	105	(50 - 200)
13C4 PFOS	80	(50 - 200)
13C4 PFBA	76	(50 - 200)
13C2 PFHxA	72	(50 - 200)
18O2 PFHxS	87	(50 - 200)
13C5 PFNA	76	(50 - 200)
13C2 PFDA	70	(50 - 200)
13C2 PFUnA	61	(50 - 200)
13C2 PFDoA	53	(50 - 200)

Dalton Utilities

Client Sample ID: #19 722 BRACKETT RIDGE RD

HPLC

Lot-Sample #....: D9H150176-005 Work Order #....: LH8RV1AA Matrix.....: WATER
Date Sampled....: 08/13/09 16:54 Date Received...: 08/15/09
Prep Date.....: 08/17/09 Analysis Date...: 08/18/09
Prep Batch #....: 9229100 Analysis Time...: 13:20
Dilution Factor: 1
Method.....: DEN -LC-0012

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
MeFOSA	51	(50 - 200)

Dalton Utilities

Client Sample ID: #19 722 BRACKETT RIDGE RD

HPLC

Lot-Sample #...: D9H150176-005 Work Order #...: LH8RV1AC Matrix.....: WATER
 Date Sampled...: 08/13/09 16:54 Date Received...: 08/15/09
 Prep Date.....: 08/19/09 Analysis Date...: 08/21/09
 Prep Batch #...: 9231231 Analysis Time...: 18:00
 Dilution Factor: 1
 Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0055
Perfluorooctanesulfonate	ND	0.020	ug/L	0.0068
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0062
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.0082
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0030
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.0054
)				
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.0065
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0026
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0025
A)				
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.0040
A)				
Perfluorotridecanoic acid (PFTriA)	ND	0.020	ug/L	0.0072
riA)				
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.0087
FTeA)				
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0045
S)				
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0084
xS)				

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
13C4 PFOA	102	(50 - 200)
13C4 PFOS	65	(50 - 200)
13C4 PFBA	68	(50 - 200)
13C2 PFHxA	70	(50 - 200)
18O2 PFHxS	81	(50 - 200)
13C5 PFNA	65	(50 - 200)
13C2 PFDA	58	(50 - 200)
13C2 PFUnA	55	(50 - 200)
13C2 PFDoA	44 *	(50 - 200)

NOTE(S) :

* Surrogate recovery is outside stated control limits.

Dalton Utilities

Client Sample ID: #19 722 BRACKETT RIDGE RD

HPLC

Lot-Sample #....: D9H150176-005 Work Order #....: LH8RV2AC Matrix.....: WATER
 Date Sampled....: 08/13/09 16:54 Date Received...: 08/15/09
 Prep Date.....: 08/26/09 Analysis Date...: 08/27/09
 Prep Batch #....: 9238300 Analysis Time...: 09:54
 Dilution Factor: 1
 Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0055
Perfluorooctanesulfonate	ND	0.020	ug/L	0.0068
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0062
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.0082
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0030
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.0054
)				
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.0065
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0026
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0025
A)				
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.0040
A)				
Perfluorotridecanoic acid (PFTria)	ND	0.020	ug/L	0.0072
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.0087
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0045
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0084

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
13C4 PFOA	106	(50 - 200)
13C4 PFOS	72	(50 - 200)
13C4 PFBA	86	(50 - 200)
13C2 PFHxA	83	(50 - 200)
18O2 PFHxS	93	(50 - 200)
13C5 PFNA	78	(50 - 200)
13C2 PFDA	69	(50 - 200)
13C2 PFUnA	70	(50 - 200)
13C2 PFDoA	61	(50 - 200)

Dalton Utilities

Client Sample ID: #20 600 TARVIN RD

HPLC

Lot-Sample #...: D9H150176-006 Work Order #...: LH8RW1AA Matrix.....: WATER
Date Sampled...: 08/13/09 17:17 Date Received...: 08/15/09
Prep Date.....: 08/17/09 Analysis Date...: 08/18/09
Prep Batch #...: 9229100 Analysis Time...: 13:27
Dilution Factor: 1

Method.....: DEN -LC-0012

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
MeFOSA	74	(50 - 200)

Dalton Utilities

Client Sample ID: #20 600 TARVIN RD

HPLC

Lot-Sample #....: D9H150176-006 Work Order #....: LH8RWLAC Matrix.....: WATER
 Date Sampled....: 08/13/09 17:17 Date Received...: 08/15/09
 Prep Date.....: 08/19/09 Analysis Date...: 08/21/09
 Prep Batch #....: 9231231 Analysis Time...: 18:16
 Dilution Factor: 1
 Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0055
Perfluorooctanesulfonate	ND	0.020	ug/L	0.0068
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0062
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.0082
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0030
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.0054
)				
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.0065
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0026
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0025
A)				
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.0040
A)				
Perfluorotridecanoic acid (PFTriA)	ND	0.020	ug/L	0.0072
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.0087
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0045
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0084

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
13C4 PFOA	100	(50 - 200)
13C4 PFOS	70	(50 - 200)
13C4 PFBA	72	(50 - 200)
13C2 PFHxA	71	(50 - 200)
18O2 PFHxS	80	(50 - 200)
13C5 PFNA	72	(50 - 200)
13C2 PFDA	64	(50 - 200)
13C2 PFUnA	47 *	(50 - 200)
13C2 PFDoA	43 *	(50 - 200)

NOTE(S):

* Surrogate recovery is outside stated control limits.

Dalton Utilities

Client Sample ID: #20 600 TARVIN RD

HPLC

Lot-Sample #....: D9H150176-006 Work Order #....: LH8RW2AC Matrix.....: WATER
 Date Sampled....: 08/13/09 17:17 Date Received...: 08/15/09
 Prep Date.....: 08/26/09 Analysis Date...: 08/27/09
 Prep Batch #....: 9238300 Analysis Time...: 10:10
 Dilution Factor: 1
 Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0062
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0055
Perfluorooctanesulfonate	ND	0.020	ug/L	0.0068
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.0082
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0030
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.0054
)				
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.0065
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0026
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0025
A)				
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.0040
A)				
Perfluorotridecanoic acid (PFTriA)	ND	0.020	ug/L	0.0072
riA)				
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.0087
FTeA)				
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0045
S)				
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0084
xS)				

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
13C4 PFOA	92	(50 - 200)
13C4 PFOS	63	(50 - 200)
13C4 PFBA	74	(50 - 200)
13C2 PFHxA	75	(50 - 200)
18O2 PFHxS	78	(50 - 200)
13C5 PFNA	66	(50 - 200)
13C2 PFDA	64	(50 - 200)
13C2 PFUnA	61	(50 - 200)
13C2 PFDoA	51	(50 - 200)

Dalton Utilities

Client Sample ID: #21 6898 HWY 225

HPLC

Lot-Sample #...: D9H150176-007 Work Order #...: LH8R01AA Matrix.....: WATER
Date Sampled...: 08/14/09 12:42 Date Received...: 08/15/09
Prep Date.....: 08/17/09 Analysis Date...: 08/18/09
Prep Batch #...: 9229100 Analysis Time...: 13:34
Dilution Factor: 1

Method.....: DEN -LC-0012

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
MeFOSA	63	(50 - 200)

Dalton Utilities

Client Sample ID: #21 6898 HWY 225

HPLC

Lot-Sample #...: D9H150176-007 Work Order #...: LH8R01AC Matrix.....: WATER
 Date Sampled...: 08/14/09 12:42 Date Received...: 08/15/09
 Prep Date.....: 08/19/09 Analysis Date...: 08/21/09
 Prep Batch #...: 9231231 Analysis Time...: 18:32
 Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0055
Perfluorooctanesulfonate	ND	0.020	ug/L	0.0068
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0062
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.0082
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0030
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.0054
)				
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.0065
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0026
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0025
A)				
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.0040
A)				
Perfluorotridecanoic acid (PFTriA)	ND	0.020	ug/L	0.0072
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.0087
S)				
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0045
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0084

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
13C4 PFOA	114	(50 - 200)
13C4 PFOS	81	(50 - 200)
13C4 PFBA	77	(50 - 200)
13C2 PFHxA	78	(50 - 200)
18O2 PFHxS	87	(50 - 200)
13C5 PFNA	77	(50 - 200)
13C2 PFDA	78	(50 - 200)
13C2 PFUnA	70	(50 - 200)
13C2 PFDoA	59	(50 - 200)

Dalton Utilities

Client Sample ID: #22 8165 HWY 225

HPLC

Lot-Sample #....: D9H150176-008 Work Order #....: LH8R11AA Matrix.....: WATER
Date Sampled....: 08/14/09 13:15 Date Received...: 08/15/09
Prep Date.....: 08/17/09 Analysis Date...: 08/18/09
Prep Batch #....: 9229100 Analysis Time...: 13:41
Dilution Factor: 1
Method.....: DEN -LC-0012

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
MeFOSA	42 *	(50 - 200)

NOTE(S) :

* Surrogate recovery is outside stated control limits.

Dalton Utilities

Client Sample ID: #22 8165 HWY 225

HPLC

Lot-Sample #...: D9H150176-008 Work Order #...: LH8R11AC Matrix.....: WATER
 Date Sampled...: 08/14/09 13:15 Date Received...: 08/15/09
 Prep Date.....: 08/19/09 Analysis Date...: 08/21/09
 Prep Batch #...: 9231231 Analysis Time...: 18:48
 Dilution Factor: 1
 Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctanoic Acid	0.29	0.020	ug/L	0.0055
Perfluorooctanesulfonate	0.24	0.020	ug/L	0.0068
Perfluorobutanoic acid (PFBA)	0.071	0.020	ug/L	0.0062
Perfluoropentanoic acid (PFPA)	0.12	0.030	ug/L	0.0082
Perfluorohexanoic acid (PFHxA)	0.14	0.020	ug/L	0.0030
Perfluoroheptanoic acid (PFHpA)	0.092	0.020	ug/L	0.0054
)				
Perfluorononanoic acid (PFNA)	0.049	0.020	ug/L	0.0065
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0026
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0025
A)				
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.0040
A)				
Perfluorotridecanoic acid (PFTriA)	ND	0.020	ug/L	0.0072
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.0087
Perfluorobutane sulfonate (PFBS)	0.38	0.020	ug/L	0.0045
Perfluorohexane sulfonate (PFHxS)	0.072	0.030	ug/L	0.0084

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
13C4 PFOA	104	(50 - 200)
13C4 PFOS	61	(50 - 200)
13C4 PFBA	77	(50 - 200)
13C2 PFHxA	78	(50 - 200)
18O2 PFHxS	85	(50 - 200)
13C5 PFNA	63	(50 - 200)
13C2 PFDA	53	(50 - 200)
13C2 PFUnA	51	(50 - 200)
13C2 PFDoA	44 *	(50 - 200)

NOTE(S) :

* Surrogate recovery is outside stated control limits.

Dalton Utilities

Client Sample ID: #23 8745 HWY 225

HPLC

Lot-Sample #....: D9H150176-009 Work Order #....: LH8R21AA Matrix.....: WATER
Date Sampled....: 08/14/09 13:25 Date Received...: 08/15/09
Prep Date.....: 08/17/09 Analysis Date...: 08/18/09
Prep Batch #....: 9229100 Analysis Time...: 13:48
Dilution Factor: 1
Method.....: DEN -LC-0012

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
MeFOSA	63	(50 - 200)

Dalton Utilities

Client Sample ID: #23 8745 HWY 225

HPLC

Lot-Sample #....: D9H150176-009 Work Order #....: LH8R21AC Matrix.....: WATER
 Date Sampled....: 08/14/09 13:25 Date Received...: 08/15/09
 Prep Date.....: 08/19/09 Analysis Date...: 08/21/09
 Prep Batch #....: 9231231 Analysis Time...: 19:04
 Dilution Factor: 1 Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0055
Perfluorooctanesulfonate	ND	0.020	ug/L	0.0068
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0062
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.0082
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0030
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.0054
)				
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.0065
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0026
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0025
A)				
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.0040
A)				
Perfluorotridecanoic acid (PFTriA)	ND	0.020	ug/L	0.0072
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.0087
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0045
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0084

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
13C4 PFOA	116	(50 - 200)
13C4 PFOS	72	(50 - 200)
13C4 PFBA	87	(50 - 200)
13C2 PFHxA	90	(50 - 200)
18O2 PFHxS	101	(50 - 200)
13C5 PFNA	79	(50 - 200)
13C2 PFDA	70	(50 - 200)
13C2 PFUnA	61	(50 - 200)
13C2 PFDoA	52	(50 - 200)

Dalton Utilities

Client Sample ID: #24 8609 HWY 225

HPLC

Lot-Sample #...: D9H150176-010 Work Order #...: LH8R31AA Matrix.....: WATER
Date Sampled...: 08/14/09 13:37 Date Received...: 08/15/09
Prep Date.....: 08/17/09 Analysis Date...: 08/18/09
Prep Batch #...: 9229100 Analysis Time...: 13:55
Dilution Factor: 1
Method.....: DEN -LC-0012

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
MeFOSA	69	(50 - 200)

Dalton Utilities

Client Sample ID: #24 8609 HWY 225

HPLC

Lot-Sample #...: D9H150176-010 Work Order #...: LH8R31AC Matrix.....: WATER
 Date Sampled...: 08/14/09 13:37 Date Received...: 08/15/09
 Prep Date.....: 08/19/09 Analysis Date...: 08/21/09
 Prep Batch #...: 9231231 Analysis Time...: 19:20
 Dilution Factor: 1
 Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0055
Perfluorooctanesulfonate	ND	0.020	ug/L	0.0068
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0062
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.0082
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0030
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.0054
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.0065
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0026
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0025
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.0040
Perfluorotridecanoic acid (PFTriA)	ND	0.020	ug/L	0.0072
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.0087
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0045
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0084

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
13C4 PFOA	108	(50 - 200)
13C4 PFOS	85	(50 - 200)
13C4 PFBA	81	(50 - 200)
13C2 PFHxA	81	(50 - 200)
18O2 PFHxS	85	(50 - 200)
13C5 PFNA	85	(50 - 200)
13C2 PFDA	75	(50 - 200)
13C2 PFUnA	59	(50 - 200)
13C2 PFDoA	50	(50 - 200)

Dalton Utilities

Client Sample ID: #25 8907 HWY 225

HPLC

Lot-Sample #....: D9H150176-011 Work Order #....: LH8R41AA Matrix.....: WATER
Date Sampled....: 08/14/09 13:59 Date Received...: 08/15/09
Prep Date.....: 08/17/09 Analysis Date...: 08/18/09
Prep Batch #....: 9229100 Analysis Time...: 14:03
Dilution Factor: 1
Method.....: DEN -LC-0012

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
MeFOSA	42 *	(50 - 200)

NOTE(S) :

* Surrogate recovery is outside stated control limits.

Dalton Utilities

Client Sample ID: #25 8907 HWY 225

HPLC

Lot-Sample #....: D9H150176-011 Work Order #....: LH8R41AC Matrix.....: WATER
 Date Sampled....: 08/14/09 13:59 Date Received...: 08/15/09
 Prep Date.....: 08/19/09 Analysis Date...: 08/21/09
 Prep Batch #....: 9231231 Analysis Time...: 19:37
 Dilution Factor: 1 Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0055
Perfluorooctanesulfonate	ND	0.020	ug/L	0.0068
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0062
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.0082
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0030
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.0054
)				
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.0065
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0026
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0025
A)				
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.0040
A)				
Perfluorotridecanoic acid (PFTriA)	ND	0.020	ug/L	0.0072
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.0087
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0045
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0084

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
13C4 PFOA	110	(50 - 200)
13C4 PFOS	67	(50 - 200)
13C4 PFBA	79	(50 - 200)
13C2 PFHxA	83	(50 - 200)
18O2 PFHxS	89	(50 - 200)
13C5 PFNA	73	(50 - 200)
13C2 PFDA	62	(50 - 200)
13C2 PFUnA	54	(50 - 200)
13C2 PFDoA	52	(50 - 200)

Dalton Utilities

Client Sample ID: #26 9279 HWY 225

HPLC

Lot-Sample #....: D9H150176-012 Work Order #....: LH8R51AA Matrix.....: WATER
Date Sampled....: 08/14/09 14:17 Date Received...: 08/15/09
Prep Date.....: 08/17/09 Analysis Date...: 08/18/09
Prep Batch #....: 9229100 Analysis Time...: 14:10
Dilution Factor: 1
Method.....: DEN -LC-0012

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
MeFOSA	52	(50 - 200)

Dalton Utilities

Client Sample ID: #26 9279 HWY 225

HPLC

Lot-Sample #....: D9H150176-012 Work Order #....: LH8R51AC Matrix.....: WATER
 Date Sampled...: 08/14/09 14:17 Date Received...: 08/15/09
 Prep Date.....: 08/19/09 Analysis Date...: 08/21/09
 Prep Batch #....: 9231231 Analysis Time...: 19:53
 Dilution Factor: 1
 Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0055
Perfluorooctanesulfonate	ND	0.020	ug/L	0.0068
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0062
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.0082
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0030
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.0054
)				
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.0065
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0026
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0025
A)				
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.0040
A)				
Perfluorotridecanoic acid (PFTriA)	ND	0.020	ug/L	0.0072
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.0087
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0045
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0084

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C4 PFOA	119	(50 - 200)
13C4 PFOS	84	(50 - 200)
13C4 PFBA	87	(50 - 200)
13C2 PFHxA	88	(50 - 200)
18O2 PFHxS	92	(50 - 200)
13C5 PFNA	89	(50 - 200)
13C2 PFDA	72	(50 - 200)
13C2 PFUnA	64	(50 - 200)
13C2 PFDoA	54	(50 - 200)